

1. What winds are caused by the unequal heating of the earth between the equator and the poles? What are their directions?
2. What happens to these winds due to the rotation of the earth in the Northern Hemisphere (the process also known as Coriolis Effect of the Earth rotation)?
3. By means of what do the weather maps or synoptic charts tell us about the distribution of atmospheric pressure?
4. In what direction is the pressure gradient measured? What is the correlation between the pressure gradient, isobars and wind force?
5. Fundamentally, the wind is a balance of three forces.
 - What is the effect of Coriolis force? How does it work?
 - What is the effect of frictional force? How does it work?
 - What is the effect of (atmospheric) pressure force or pressure gradient? How does it work?

As a result of the above forces, the surface wind will always blow in the direction from _____ to _____ crossing the _____ at an angle (an average angle of 30° over land and 15° over the water).

6. What is Baric Wind Law first formulated in 1857 by the Dutch meteorologist Buys Ballot?
7. What are the principal types of pressure patterns or pressure systems? What do they consist of? What is the wind circulation/movement at the earth's surface level?
8. What kind of weather can one expect in the very centre of pressure systems, including a col?

9. In which layer of atmosphere do the pressure systems develop?
10. What is the vertical and circular movement of air typical of a high and low at its lower and upper levels?
11. What causes the formation of a high-pressure area? (explain the formation of a high)
12. What causes the formation of a low-pressure area? (explain the formation of a low)
13. Which pressure system is more dangerous to mariners? Why?